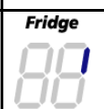
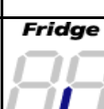
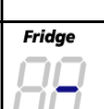
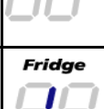
Samsung 'Refrigerator' Diagnostic Code Quick Guide

No	Error Items	LED	TROUBLE
1	I/M-SENSOR		Ice Maker Sensor Error- This can be an Electric wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 122° or < -58 ° F.
2	R-SENSOR		Refrigerator Compartment Sensor Error- This can be an Electric wire cut, short-circuit, contact failure, or missing sensor. Cause is also a temperature reading > 122°or < -58 ° F.
3	DEFROST SENSOR OF R ROOM		Ref. Defrost Sensor Error- This can be an Electric wire cut, short-circuit, contact failure, or missing sensor. Cause is also a temperature reading > 122°or < -58 ° F.
4	R-FAN ERROR		This error indicates the Refrigerator Evap Fan is not spinning at the correct RPM or the fan feedback line is open.
5	I/M FUNCTION ERROR		This error indicates the Ice tray has not returned to level after an ice harvest. The error is displayed after three failed attempts.
6	COOL SELECT ZONE SENSOR		Cool Select Zone Sensor Error- This can be an Electric wire cut, short-circuit, contact failure, or missing sensor. Cause is also a temperature reading > 122°or < -58 ° F.
7	R-DEFROSTING ERROR		Refrigerator Room defrost heater- wire cut, short-circuit, contact failure, missing sensor housing, or defective temperature fuse/bi-metal. Defrost on for over 80 minutes
8	PANTRY-DAMPER-HEATER ERROR		Sensor system in Pantry Room errors
9	CR-SENSOR 4-Door		CR Compartment Sensor Error- This can be an Electric wire cut, short-circuit, contact failure, or missing sensor. Cause is also a temperature reading > 122°or < -58 ° F.
9	PANTRY-SENSOR ERROR		CR Compartment Sensor Error- This can be an Electric wire cut, short-circuit, contact failure, or missing sensor. Cause is also a temperature reading > 122°or < -58 ° F.
10	DEFROST SENSOR OF CR ROOM 4-Door		CR Compartment Defrost Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 122° or < -58 ° F.
11	DEFROST SENSOR OF CF ROOM 4-Door		CF Compartment Defrost Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 122° or < -58 ° F.
12	CR-DEFROSTING ERROR 4-Door		CR Compartment Defrosting heater- wire cut, short-circuit, contact failure, missing sensor housing, or defective temperature fuse/bi-metal. Defrost on for over 80 minutes
13	CF-DEFROSTING ERROR 4-Door		CF Compartment defrosting heater- wire cut, short-circuit, contact failure, missing sensor housing, or defective temperature fuse/bi-metal. Defrost on for over 80 minutes
14	WATER HEATER ERROR		Error is displayed when the water reservoir tank heater is open or shorted

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No	Error Items	LED	TROUBLE
15	EXT-SENSOR		Ambient Temp. Sensor Error- This can be an Electric wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 122° or < -58 ° F.
16	F-SENSOR		Freezer Compartment Sensor Error- This can be an wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 122° or < -58 ° F.
17	F-DEF-SENSOR		Freezer Room Defrost Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 122° or < -58 ° F.
18	F-FAN ERROR		This error indicates the Freezer Evap. Fan is not spinning at the correct RPM or the fan feedback line is open.
19	C-FAN ERROR		This error indicates the Condenser Fan is not spinning at the correct RPM or the fan feedback line is open.
20	CF-SENSOR 4-Door		CF Room Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor housing. This can also be caused by a temperature reading > 122° or < -58 ° F.
20	FRENCH DOOR ICE ROOM SENSOR		Ice Room Compartment Sensor Error- This can be an Electric wire cut, short-circuit, contact failure, or missing sensor housing. Cause is also a temperature reading > 122°or < -58 ° F.
21	F-DEFROSTING ERROR		Freezer Compartment defrosting heater- wire cut, short-circuit, contact failure, missing sensor housing, or defective temperature fuse/bi-metal. Defrost on for over 80 minutes
22	CF-FAN ERROR 4-Door		This error indicates the CF Compartment Evap. Fan is not spinning at the correct RPM or the fan feedback line is open.
23	CR-FAN ERROR 4-Door		This error indicates the CR Compartment Evap. Fan is not spinning at the correct RPM or the fan feedback line is open.
23	FRENCH DOOR ICE ROOM FAN ERROR		This error indicates the Ice Room Compartment Evap. Fan is not spinning at the correct RPM or the fan feedback line is open.
25	ICE PIPE HEATER ERROR		Error is displayedwhen the ice maker fill pipe heater is open or shorted.
26	Uart ERROR COMMUNICATION		This error is not applicable, if the error is detected during diagnostic testing please ignore it.
27	L↔M ERROR COMMUNICATION		Communication error within the Main PCB
28	P↔M ERROR COMMUNICATION		Communication between the Main PCB and Keypad

Samsung 'Refrigerator' Diagnostic Code Quick Guide

Samsung Single Evaporator 'Refrigerator' Diagnostic Code Quick Guide

No	Error Items	Display LED	TROUBLE
1	Fridge Sensor	Fridge "Mid"	Fridge Room Sensor Error- This can be an wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 149° or < -58 ° F.
2	Peripheral Temp Sensor	Fridge "Min"	Ambient Temp. Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 149° or < -58 ° F.
3	Freezer Sensor	Freezer "Max"	Freezer Room Sensor Error- This can be an wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 149° or < -58 ° F.
4	Freezer Defrost Sensor	Freezer "Mid"	Freezer Room Defrost Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 149° or < -58 ° F.
5	Freezer Defrost Error	Freezer "Min"	Freezer Room defrosting heater- wire cut, short-circuit, contact failure, missing sensor housing, or defective temperature fuse/bi-metal. Defrost on for over 90 minutes
6	I/M Function Error	No Ice	This error indicates the Ice tray has not returned to level after an ice harvest. The error is displayed after three failed attempts.
7	I/M Sensor Error	Cubed Ice	Ice Maker Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 149° or < -58 ° F.

Samsung Older "RB" Series 'Refrigerator' Diagnostic Code Quick Guide

No	Error Items	Display LED	TROUBLE
1	R-SENSOR	Fridge 5	Fridge Compartment Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 150° or < -58 ° F.
2	DEFROST SENSOR, R ROOM	Fridge d	Fridge Compartment defrosting heater- wire cut, short-circuit, contact failure, missing sensor housing, or defective temperature fuse/bi-metal. This can also be caused by a temperature reading > 150° or < -58 ° F.
3	Peripheral Temp Sensor	Freezer E5	Ambient Temp. Sensor Error- This can be an wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 150° or < -58 ° F.
4	F-SENSOR	Freezer F5	Freezer Compartment Sensor Error- This can be a wire cut, short-circuit, contact failure, or missing sensor. This can also be caused by a temperature reading > 150° or < -58 ° F.
5	F-DEF-SENSOR	Freezer d5	Freezer Compartment defrosting heater- wire cut, short-circuit, contact failure, missing sensor housing, or defective temperature fuse/bi-metal. This can also be caused by a temperature reading > 150° or < -58 ° F.

			Samsung 'Washer' Diagnostic Code Quick Guide	
No	**LED Display**	**Code**	**Description**	**Corrective Action**
1	nd	1	The water level fails to drop below the Reset Water Level within 15 minutes.	Go to " Will Not Drain" Troubleshooting Section.
2	LO	2	Door fails to unlock after 3 attempts.	Go to " Will Not Unlock" Troubleshooting
3	nF	3	When the water fill continues for more than 16 minutes or there is no change of water level for 3 minutes	Go to " No Water Fill" Troubleshooting Section.
4	FL	4	Door fails to lock after 3 attempts.	Go to " Will Not Lock" Troubleshooting.
5	nF1	5	The Hot/Cold water connection is not correct	Correct Hot/Cold hose connections
6	LeE or LE	8	Water Level Sensor Trouble. (When the input signal from the water level sensor is out of range, the unit will send out beeping sounds and halt the cycle.)	Go to "No Water Fill" Troubleshooting Section.
7	OE	E	A fault is detected in the water level sensor. Data (frequency) shows the water level is at or above the overflow water level. Drain process may also occur.	First check to see that all of water valves are not stuck. If water valves are OK, check water level sensor
8	dc	10	Unbalance or cabinet bump is detected during final spin, which prevents the drum from spinning over 400 rpm. (Never exceeds 400 RPM due to unbalanced load)	Go to "Wet Clothes" Troubleshooting Section
9	-	11	EEPROM Fault. (Program settings are being reset.)	Go to "EEPROM Clear Mode" If display shows "FAiL", Replace Machine Control Board
10	E2	15	Jammed/Stuck Key. (When key input signals are detected for more than 30 seconds, it is a stuck key.)	Check all of keys. If A key is sensed to be pressed, all keys will do not respond
11	dL	18	Door is detected as open when the motor is operating.	Check for loose connections. Use "Quick Test Mode" do Door lock/Unlock Test & Motor Test.
12	dS	22	Door is detected as open while trying to lock the door.	Go to "Quick Test Mode" and then do Door Lock/Unlock Test
13	bE	25	Motor hall sensor signals sent without motor operation.	Replace Machine Control Board
14		29	Abnormal high/low temperature or resistance (Thermal sensor or PBA) resistance.	Go to " Board Input Test" and check Water Temperature. Check loose or pinched wires. Replace PCB or thermistor.
15	E3	2E	MICOM is attempting to drive the motor but is not getting any response signals from the hall sensor. Visual check shows motor is not running. (Locked, Defective Hall Sensor or Overload)	Evaluate wire harness for loose or unhooked connections Go to " Quick Test Mode" and test Motor
16	Sr	34	System Relay (Main Relay) Failure. (PCB does not notice the relay operation when there should be.)	Replace PCB.
17	Hr	36	Heater Relay Failure (No Heater Relay Check Signal)	Replace PCB
18	3E	3E	Over-current is detected. Motor won't turn. (IPM detects over-current.)	Check wire harness for loose or open connections. Use " Quick Test Mode" to test Motor.
19	2E	91	Voltage for motor control bus is over specified limit	Check AC line voltage - Replace PCB
20	2E	92	Voltage for motor control bus is under specified limit.	Check AC line voltage - Replace PCB
21	8E	8E	MEMS Sensor Failure. (No MEMS Sensor Check Signal)	Check MEMS PCB ,Main PCB & Wire-harness
22	7E	7E	Silver Care Kit (Silver Care PCB) Failure.	Check Silver Care PCB ,Main PCB & Wire-harness
23	PF	-	It occurs when there is power failure during the washing. ("PF" is not an error. It is to inform of power failure.)	-
24	SUdS or Sd	-	Suds is detected during the washing session. ("SUdS" is not an error. If the washer is in suds period, "SUdS" will light up instead of remaining time.)	Guide a user to reduce amount of detergent usage.

Samsung 'Dryer' Diagnostic Code Quick Guide			
Display	Description	Trigger	Action Taken
	Dryer Thermistor Short Sensed	The Thermistor resistance is very low.	Check for: Clogged lint screen, Restricted vent system, Thermistor resistance.
	Dryer Thermistor Open Sensed	The Thermistor resistance is very high.	Check for: Clogged lint screen, Restricted vent system, Thermistor resistance.
do	Door Open	Running the dryer with door open	Check for: Loose or open wire terminals in Door Sense circuit.
FE	Power source frequency	Invalid power source Frequency	Check for: Non Utility power supply
dF	Door Circuit Failure	Invalid state for more than 256 milliseconds	Check for: Loose or open wire terminals in Door Sense circuit.
hE or HE	Heater Error	Invalid heating Temp in running the dryer	Check for: Restricted vent system, Thermistor resistance.
bE	Button Error	PCB key closed for 75 sec.	Check Display PCB for stuck button
od	Over Dry	Invaled Dry Time Excessive Dry Time	Inspect seensor bars
	EEprom Fail	Invalid state of Eeprom communication	Replace Main PCB

Samsung 'Microwave' Diagnostic Code Quick Guide	
Failure Code	**Cause**
E-11 Open **E-12 Short** **E-13 T1 Max Time Error** **E-14 Dry Up / No Load**	**Error Code Gas Sensor Error Case (E-1X)**
E-21 Open **E-22 Short** **E-23 T1 Max Time Error (Preheating not completed)** **E-24 Over temperature error** **E-25 Abnormal temperature is sensed at Micro Cook** **E-26 Temperature is not over the fixed AD in first 3 minutes after cooking by heater starts.**	**Error Code Temp. Sensor Error Case (E-2X)**
E-31 Open (When value of HEX is above "FF" for 5 seconds) **E-32 Short** **E-33 The initial value of HEX is under "14" for 30 seconds while a weight sensor in operation.** **E-34 The initial value of K calculated by a weight sensor is above and under "±28" as value of HEX.** **E-35 The value of A is "-" as a weight sensor calculates.** **E-36 In case the door opens during sensor cooking.**	**Error Code Gas Sensor Error Case (E-1X)**
E-41 Open **E-42 Short** **E-43 T1 Max Time Error** **E-44 Dry Up** **E-45 Cooling Error (3minutes)** **E-46 Primary Open Error(3minutes)** **E-47 The door opens during cooking**	**Error Code Easy/PH Sensor Error Case (E4)**
E-51 Open (Sense Failure) **E-53 Read/Write Error** **E-54 Zero not to be set**	**Error Code EEPROM Error Case (E-5X)**
E-61 Open **E-62 Short** **E-63 T1 Max Time Error**	**Error Code Humidity Sensor Error Case (E-6X)**
-SE- Key Short Error (10 seconds) **E-01 Door opens when the door should not be opened.** **E-02 Cooking Time Setting Over Error (MWO)** **E-03 Cooking Time Setting Over Error (Grill)** **E-04 Cooking Time Setting Over Error (Convection)** **E-05 Cooking Time Setting Over Error (Combination)** **E-06 It fails to sense that the swing heater has stopped for 20 seconds during cooking.** **E-08 In case function of MWO starts with spit inserted into cavity inside.** **E-09 The damper is not set to be positioned for 2 minutes.**	**Error Code Others (E-0X, Letter)**

Samsung 'Electric Range' Diagnostic Code Quick Guide		
Failure Code	**Cause**	**Solution**
E27 **E28**	**Oven sensor opened(over 2950Ω)** **Oven sensor shorted (Under 930Ω)**	**1. Disconnect power. Open the back cover. Disconnect sensor harness from control Measure sensor resistance :1080Ω at room temperature → If different value, replace oven sensor.** **2. If there is not any problem with oven sensor, Please check whether there is a damaged terminal or wire on harness.** **3. Check resistance of oven sensor connector on main PCB (Normal:2850Ω)**
E-08 **E-0A**	**Oven not heating error** **Oven over heating error**	**1. Disconnect power. Open the back cover. Disconnect sensor harness from control. Measure sensor resistance :1080Ω at the room temperature → If different value, replace oven sensor.** **2. Check the broil, bake and convection heater. Check the resistance of each.** **3. Check whether DLB of sub PCB, Broil, Bake and Convection heater relay are being activated** **4. Check wiring harnesses between main PCB on sub PCB.** **5. Check the resistance of oven sensor connector on main PCB. (Normal : 2850Ω)**
SE	**Shorted key**	**1. Check if cable of keypad has been inserted into connector of main PCB.** **2. Check for short between main PCB and connector or keypad and cable.** **3. If there is not a problem with connector on main PCB and cable of keypad, replace the main PCB.**
E-OE	**Door locking error**	**1. Disconnect power. Open the back cover. Check wiring harness connections between door lock switch and motor.** **2. Check resistance of door lock motor ,1750~1850Ω at the room temperature.** **3. With operating door lockout, measure voltage at door lock motor. (Normal Voltage : AC 120V)** **4. Check whether door locking switch is operating properly.**

Samsung 'Dishwasher' Diagnostic Code Quick Guide			
Error Type	**Error Mode**	**Cause**	**Reason**
Water Supply Error	4E	1. When the pulse of 100 or less is detected 1 minute after the water supply starts 2. When flow meter pulse is 5 or less 5 seconds after the water supply starts 3. No water detected 5 min after the supply starts	Water supply valve defect, Flow Meter defect, Particles within water supply valve, Water supply valve terminal not connected Main PBA defect
Water Supply Error	4E1	When 80℃ or above is detected during water supply	Thermistor Defect, Water supply temperature of 80℃ or above Main PBA defect
Drain Error	5E	When OFF status of Low Level S/W is not detected within3 minutes during the drain	Drain pump defect, Low Level Sensor defect, Particles clogging mater drain hose, Drain valve terminal not connected Main PBA defect
Overflow Error	oE	When overflow detection AD data is 4.0V or below for 3 seconds (When leakage sensor detects 4.0V or below for 1 seconds during water supply)	Foreign particles in water supply valve, Case Sensor part leakage Flow Meter defect Main PBA defect
Leakage Error	LE	When leakage sensor detects 4.5V or below for 1 seconds	Base part hose connection defect Sump and Tub assembly defect Drain Pump assembly defect Main PBA defect
Heater Error	HE	When the temperature change is 4℃ or less within the first 10 minutes after the heating starts	Heater defect Heater Relay defect Heater terminal not connected Main Wire-Harness defect Main PBA defect
Heater Error	HE1	When the temperature of the Thermistor is 80℃ or above for more than 3 seconds	Heater Relay defect Thermistor defect Main PBA defect
Temp Sensor Error	tE1	When 0.2V or below, or 4.5V or above is maintained for over 3 seconds	Thermistor terminal not connected Thermistor Defect Main PBA defect
Low Water Level Error	9E	When Low Level is detected to cause Error even after the water supply resumes after Low Level is detected for the 1st time	Low Level Sensor defect Low Level Sensor not connected Main PBA defect
Button Error	bE2	When the button is pressed continuously for over 30 seconds	Sub PBA defect Main PBA defect
Half Load Function Error	PE	When micro s/w is not detected for over 30 seconds after the Distributor motor starts	Distributor motor defect Micro sw terminal not connected Main PBA defect